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I004/I204

STEP

AUTHOR: ⑧ Peschel, M., ~~Dipl. Mathematician~~

TITLE: ⑥ Investigation of linear systems by suitable noise processes

PERIODICAL: ⑤ Zeitschrift für messen, steuern, regeln, no.6, 1962, 257-260

TEXT: It is suggested to determine the transfer properties of a network by a comparison of statistic properties of input and output processes. Thus the  $\delta$ -function test signal may be replaced by a Poisson process, while a process with an independent increment corresponds to a step function. Radioactive decay and the anode current in a vacuum tube under non-space charge limitation conditions form an example of a Poisson process while an integral of a Poisson process gives an example of a homogeneous pro-

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Investigation of linear systems by....

cess with an independent increment. The utilization of the two kind of processes is illustrated by means of block diagrams. The correlation function for the secondary processes with processes comprising an independent increment are evaluated by means of a characteristic function  $\varphi(\tau_1, \tau_2)$  of the distribution  $F(\xi_{t1}, \xi_{t2})$ . There are 4 figures.

ASSOCIATION: Deutsches Amt für Messwesen (German Bureau for Measurements) Berlin

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